

two rows of yellow spots below and some crimson scales on anal segment. Primaries dark brownish grey; a median angular black transverse line; a black spot on costa beyond the cell, followed by a curved pale yellow band from costa to outer margin above vein 3; the apex and a large space from inner angle to vein 3 darker; some indistinct terminal yellowish spots. Secondaries yellow or roseate, the margin narrowly black, but more widely so at apex. Underneath there are crimson spots at the base of costal margins and a reddish quadrate spot at end of cell on primaries.

Female.—Darker, with only the yellow band distinct on primaries. Secondaries black, with a curved subterminal red band, not reaching the inner margin.

Expanse, ♂ 53, ♀ 60 millim.

Hab. Castro, Parana.

XXXV.—On *Sciurus caniceps* and allied Species.

By J. L. BONHOTE, B.A.

THE squirrels called "*Sciurus caniceps*" and its allies have been less confused with a mass of names than those of some of the other groups with which I have dealt; this is no doubt due to the fact that a well-marked change of pelage was known to take place and the nearly allied forms were supposed to be specimens in various stages of change; thanks, however, to a large series at the British Museum, as well as to a considerable number of specimens brought home from the Malay Peninsula by the "Skeat Expedition" and now in the Cambridge Museum, I have been enabled to arrive at certain conclusions, which will, I trust, cause the various forms of this group to be more easily understood.

In the first place five species may be recognized, viz.:—

- (i.) *Sc. caniceps* (the only species having a distinct breeding-dress), ranging through Burma, Siam, and the north of the Malay Peninsula.
- (ii.) *Sc. concolor*, a nearly allied species with no seasonal change, confined, so far as we are aware, to the Malay Peninsula, at the northern extremity of which it meets with *Sc. caniceps*.
- (iii.) *Sc. epomophorus*, sp. n., which ranges down the west coast of the Malay Peninsula from Bankasun to Malacca.
- (iv.) *Sc. pygerythrus*, from Burma and Tenasserim.
- (v.) *Sc. griseimanus*, from Cochin China.

Sciurus caniceps, Gray.

Sciurus caniceps, Gray (nec Temm.), Ann. & Mag. Nat. Hist. x. 1842, p. 263; Thos. P. Z. S. 1886, p. 68; Anders. Zool. Res. Yunnan, p. 229 (1879); Blanford, Faun. Br. Ind., Mamm. p. 380 (1891); W. L. Slater, Cat. Mamm. Calc. Mus. ii. p. 13 (1891).
Sciurus chrysonotus, Blyth, J. A. S. B. vol. xvi. 1847, p. 873, pl. xxxvii.

This species, although closely allied to *Sc. concolor* and *Sc. epomophorus* described in this paper, is quite distinct in having a breeding-pelage, which is assumed during the winter months, being at its brightest in January. It ranges throughout Burma and Tenasserim, spreading eastwards into Siam, and being found as far south as Bangkok in the native State of Patlung, although I know of no instance of its occurrence on the western side of the peninsula.

In its dull pelage, which is worn from March to November, it is of a uniform grizzled grey, lighter on the underparts, top of the head, and feet. The tail is similar in colour to the back, and shows, especially towards its tip, annulations of black and grey. The tip itself is black. Each hair above is dark at its base, with three or four light annulations, while those below have dark bases and light ashy-grey tips.

In its bright pelage the underparts, limbs, feet, tail, sides of the face, and top of the nose are unchanged, but the rest of the pelage, which includes all the upper parts, becomes of a deep rufous orange, each hair being black at its base with a deep rufous tip. The change, which takes place by moult and not by a change of colour, is undergone equally by both sexes, and takes place, I believe, during the rutting-period. In the bright pelage *Sc. caniceps* is quite distinct from all other species, and there can be no risk of confusion; but in the dull pelage it bears a considerable likeness to *Sc. concolor* and *Sc. epomophorus Davisoni*. The latter, however, may always be distinguished by its much darker colour, the presence of a patch of very pale rufous on the underparts at the base of either thigh, and a similar very pale rufous patch on the sides of the neck below the ear. *Sc. concolor* is distinguished by the annulations on the hairs of the back being of varying degrees of ferruginous, instead of pale ashy. The hairs on the ears are also rufous, which is never the case in *Sc. caniceps*, and the long black hairs at the tip of the tail have fulvous ends, which latter characteristic will serve to distinguish *Sc. concolor* from all the other species except *pygerythrus* and *griseimanus*. There is no risk of confusing the most vividly marked specimens of *Sc. concolor* with the bright pelage of *Sc. caniceps*, for the hairs of *Sc. concolor* are *always*

annulated, which is never the case with those of a bright *Sc. caniceps*. Those specimens in the "Skeat Collection" from Singora and Bangkok, Patelung, which I have referred to * as being somewhat greyer than the rest, belong to this species, the remainder belonging to *Sc. concolor*.

Sciurus concolor, Blyth.

Sciurus concolor, Blyth, J. A. S. B. xxiv. 1855, p. 474.

Macroxus inornatus, Gray, Ann. & Mag. Nat. Hist. xx. 1867, p. 282.

Sciurus caniceps, Gray, W. L. Sclater, Cat. Mamm. Calc. Mus. ii. p. 14 (1891); Flower, P. Z. S. 1900, p. 356; Bonhote, P. Z. S. 1900, p. 877.

This species, which has long been confused with *Sc. caniceps*, and still more perhaps with the next species to be described, is in reality a very well-marked and distinct form, and is, so far as we are at present aware, confined to the Malay Peninsula, where, judging from a large series lately brought home from the native States, it appears to be the commonest squirrel. It is also found on the Laos Mountains in Cochin China, where the type of Gray's *Sc. inornatus* was procured, and there is a specimen in the Museum, labelled "Sadya," from Col. Godwin-Austen's collection.

The general colour is a ruddy fulvous on the upper parts, deepest on the median line and the rump, and lighter on the sides and across the shoulders; the fulvous tinge extends a little way up the tail, but the annulations towards the tip get lighter; the tip itself is black, each hair, however, having a light fulvous end. Underparts light ashy. Limbs, feet, and head grizzled grey. Hairs on the ears pale rufous, and there is a more or less distinct rufous tinge round the eye. Each hair on the upper parts is very dark brown or black, with three or four annulations, which vary in colour from deep ferruginous to pale fulvous according to their position on the body; the hairs of the underparts are light ashy with dark bases.

The type of the species was procured by Mr. Moxon in Malacca and is now in the Calcutta Museum.

Sciurus epomophorus, sp. n.

Sciurus caniceps concolor, Bly., Thos. P. Z. S. 1886, p. 70.

Sciurus caniceps, Gray, Blanford, Faun. Br. Ind., Mamm. p. 380 (1891);

W. Sclater, Cat. Mamm. Calc. Mus. ii. p. 14 (1891).

Resembles the dull pelage of *Sc. caniceps*, but is much darker, this being chiefly caused by the light annulations on each hair being narrower and thus allowing more of the dark

* Bonhote, P. Z. S. 1900, p. 877.

colour to reach the surface; these annulations are, moreover, pale fulvous instead of ashy grey. The feet, limbs, and head are not lighter than the back, and the underparts only slightly so. On either side of the neck just below the ear is a round patch of deep chestnut, and there is a line of the same colour which starts from above and behind the shoulders, and, running along either side, turns inwards and downwards, to end on the underside opposite the thighs. There is also a fainter patch of the same colour at the root of the tail, and a faint line along the outer side of each hind limb. The tail, which is annulated with fulvous and black, ends in a black tip.

Dimensions (from skin):—Head and body 275 millim.; tail 195 (doubtful measurement); hind foot 50.

Hab. The west coast of the Malay Peninsula from Penang to south of Tenasserim.

Type ♀, B.M. 85. S. 1. 192. Salanga Island. Collected on 4th March, 1879, by Mr. J. Darling, and presented to the Museum by Mr. A. O. Hume.

This species, which by its rufous markings may be easily distinguished from all the others, has no breeding or seasonal change of pelage, and is practically the same at all times of year.

Sciurus epomophorus Davisoni, subsp. n.

Very similar to the preceding species, from which it may be recognized by the rufous patch on the neck being replaced by a rather yellowish tinge; the lateral lines are hardly visible, being most discernible as two pale rufous spots on the underparts opposite the thighs, and in some specimens there is a trace of rufous at the base of the tail.

Dimensions as in *Sc. epomophorus*; tail 210 millim.

Hab. Burma, from Moulmein to the south of Tenasserim.

Type ♀, B.M. 85. S. 1. 187. Bankasoon, S. Tenasserim. Collected on the 20th June, 1877, by Mr. W. Davison, and presented to the Museum by Mr. A. O. Hume.

The remaining three species of this group are quite distinct and recognizable from all the preceding forms by the yellow colour of the underparts.

Sciurus pygerythrus.

Sciurus pygerythrus, Is. Geoff. St.-Hil. Mag. Zool. 1832, Cl. 1; id. Voy. Bélang. 1834, p. 145, pl. vii.; Anders. Zool. Res. Yunnan, p. 227 (1879); Blanford, Faun. Br. Ind., Mamm. p. 379 (1891); W. Sclater, Cat. Mamm. Calc. Mus. ii. p. 12 (1891).

Sciurus Blanfordi, Blyth, J. A. S. B. xxxi. 1862, p. 333.

Sciurus caniceps pygerythrus, Is. Geoff. St.-Hil., Thos. P. Z. S. 1836, p. 69.

Somewhat smaller than the succeeding species; general colour on the upper parts light grizzled grey, similar to *Sc. caniceps*. Underparts pale fulvous, and a small patch of the same colour behind the ear. Tail grizzled above and fulvous below, each hair being black with a fulvous end; tip of the tail black. Feet fulvous.

Dimensions (from skin):—Head and body 175 millim.; tail 150; hind foot 40.

Hab. Pegu and Burma.

Sciurus pygerythrus Phayrei.

Sciurus pygerythrus, var. *Phayrei*, Blyth, J. A. S. B. xvii. 2, 1848, p. 345.

Sciurus Phayrei, Blyth, J. A. S. B. xxiv. 1885, pp. 472 & 476; Anders. Zool. Res. Yunnan, p. 230 (1879); Blanford, Faun. Br. Ind., Mamm. p. 379 (1891).

Sciurus caniceps Phayrei, Bly., Thos. P. Z. S. 1886, p. 69.

Very similar to *Sc. pygerythrus*, from which it differs only in its larger size and in the presence of a short dark stripe along either side between the limbs. The colour of the underparts is rather deeper in tone than in *Sc. pygerythrus*.

Dimensions (from skin):—Head and body 225 millim.; tail 200; hind foot 45.

Hab. S. Burma and Tenasserim.

A certain amount of confusion seems to exist on the subject of the colour of the underparts, Mr. Sclater leading us to understand that the underparts of *Sc. pygerythrus* and *Sc. Blanfordi* were of a "bright red," while Dr. Anderson, on the other hand, gives the colour as pale orange-yellow, which latter statement agrees with all the specimens I have examined; but the latter states that the underparts of *Sc. Phayrei* are orange-red, whereas all the specimens in the British Museum are yellowish orange (about halfway between "orange" and "yellow-buff," Ridgway).

Sciurus griseimanus, M.-Edw.

Sciurus griseimanus, A. M.-Edw. Rev. Zool., June 1867, p. 195; Anders. Zool. Res. Yunnan, p. 233 (1879); Blanford, Faun. Br. Ind., Mamm. p. 381 (1891).

Sciurus leucopus, Gray, Ann. & Mag. Nat. Hist., Oct. 1867, vol. xx. p. 282.

Sciurus caniceps griseimanus, M.-Edw., Thos. P. Z. S. 1886, p. 69.

Sciurus pygerythrus, var. *D. griseimanus*, M.-Edw., W. Sclater, Cat. Mamm. Calc. Mus. ii. p. 12 (1891).

General colour of the upper parts pale grizzled; underparts fulvous; feet dirty white; tail uniformly grizzled, like the back, with no black tip.

Dimensions about as in *Sc. p. Phayrei*.

Hab. Cochin China.

Key to the Species.

- A. Underparts grey.
- a*¹. Tail with black tip and no hoary ends to hairs.
 - a*². Back deep orange *Sc. caniceps* (winter).
 - b*². Back uniformly grizzled.
 - a*³. Sides of neck of same colour as the back *Sc. caniceps* (summer).
 - b*³. Sides of neck with patch of colour.
 - a*⁴. Patch on the neck deep chestnut. *Sc. epomophorus*.
 - b*⁴. Patch on the neck pale rufous *Sc. e. Davisoni*.
 - b*¹. Tail with black tip and hoary ends to the hairs *Sc. concolor*.
- B. Underparts buff or yellow.
- a*¹. Tail with black tip.
 - a*². Colour of underparts not bordered by a dark stripe on flanks *Sc. pygerythrus*.
 - b*². Colour of underparts bordered by a dark stripe on flanks *Sc. p. Phayrei*.
 - b*¹. Tail with no black tip *Sc. griseimanus*.

XXXVI.—*Descriptions of Seventeen new Genera of Ichneumonidæ from India and One from Australia.* By P. CAMERON.

IN this paper I have described a number of well-marked genera of Ichneumonidæ, mostly belonging to the Joppini and the Heresiarachini. Very little has been published upon the Joppini occurring in India, but in all probability they will prove to be quite as numerous there as in the Neotropical Zoological Region, which has hitherto been looked upon as the headquarters of the group. Two genera of Indian Joppini have been described by Dr. Kriechbaumer in Ent. Nachtr. xxiv. 1898, where he also revises the genera; and there is a further revision of them by Mr. W. H. Ashmead in Bull. U.S. Nat. Mus. xxiii. 1900. The Heresiarachini are easily known by their toothless mandibles. This tribe appears to be well represented in India, but no species has hitherto been recorded therefrom. The species are in the collection of Mr. G. A. J. Rothney.

GATHETUS, gen. nov.

Wings with an apical cloud. Areolet five-angled, narrowed at the top. Antennæ short, thickened and compressed beyond the middle. Cheeks swollen. Labrum hidden. Scutellum flat, the sides not margined, the apex incised in the